

1600

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DATE: 05/09/2003
                RAW SEQUENCE LISTING
                PATENT APPLICATION: US/09/825,769A
                                                         TIME: 12:39:25
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 3 <110> APPLICANT: BLAKE, MILAN S.
 4
         BOGDAN JR., JOHN A.
         NAZARIO-LARRIEU, JAVIER
 7 <120> TITLE OF INVENTION: METHOD FOR THE PRODUCTION OF BACTERIAL TOXINS
 9 <130> FILE REFERENCE: 38777-0054
11 <140> CURRENT APPLICATION NUMBER: 09/825,769A
12 <141> CURRENT FILING DATE: 2001-04-04
14 <150> PRIOR APPLICATION NUMBER: 60/194,478
15 <151> PRIOR FILING DATE: 2000-04-04
17 <160> NUMBER OF SEQ ID NOS: 12
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24 <213> ORGANISM: Artificial Sequence
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27 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
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62 <213> ORGANISM: Artificial Sequence
64 <220> FEATURE:
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RAW SEQUENCE LISTING DATE: 05/09/2003 PATENT APPLICATION: US/09/825,769A TIME: 12:39:25

Input Set : A:\38777054.app

Output Set: N:\CRF4\05092003\I825769A.raw

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                                 40
102 Ala Val Glu Lys Ala Arg Glu Glu Val Ala Lys Leu Val Asn Ala Asp
                             55
105 Pro Arg Glu Ile Val Trp Thr Ser Gly Ala Thr Glu Ser Asp Asn Leu
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108 Ala Ile Lys Gly Ala Ala Asn Phe Tyr Ala Glu Arg Gly Lys His Ile
111 Ile Thr Val Lys Thr Glu His Lys Ala Val Leu Asp Thr Cys Arg Glu
112
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114 Leu Glu Arg Gln Gly Phe Glu Val Thr Tyr Leu Asp Val Gln Asp Asp
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117 Gly Leu Leu Ser Leu Asp Ala Phe Lys Ala Ala Leu Arg Pro Asp Thr
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120 Ile Leu Val Ser Val Met Met Val Asn Asn Glu Ile Gly Val Ile Gln
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123 Asp Ile Ala Ala Leu Gly Glu Ile Cys Arg Glu Lys Gly Ile Ile Phe
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126 His Val Asp Ala Ala Gln Ala Thr Gly Lys Val Glu Ile Asp Leu Gln
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135 Ile Glu Ala Gln Met His Gly Gly Gly His Glu Arg Gly Phe Arg Ser
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Output Set: N:\CRF4\05092003\I825769A.raw

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	305	TYL	Val	Giu	Gry	310	Det	пеп	116	Mec	315	116	цуз	GIU	пец	320
		Cor	Com	C1	Con		Ctra	mh m	Cor	715		T 011	C1.1	Dro	Con	
	Val	Ser	ser	СТУ		ніа	Cys	TIIT	ser		ser	Leu	GIU	PIO	Ser	тут
154	17.01	T	3	71.	325	a 1	3	7	7	330	T 011	3 1 n	TT	C = m	335	т1.
	Val	Leu	Arg		ьeu	СТУ	Arg	ASII		GIU	Leu	Ald	HIS		Ser	тте
157		51 .	m1	340	a 1		51	m1.	345	a 1.	a1 .	a 1	-1-	350	51	-1
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-,0	/4U	J / 31	:Oner	WCE:	,											
			-			Ile	Tyr	Leu	Asp	Tyr	Ser	Ala	Thr	Thr	Pro	Val
			-			Ile	Tyr	Leu	Asp	Tyr 10	Ser	Ala	Thr	Thr	Pro 15	Val
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177 178 180 181	Met 1 Asp	Ser Pro	Asn	Arg Val 20	Pro 5 Val	Glu	Lys	Met	Ile 25	10 Pro	Trp	Leu	Tyr	Glu 30	15 Ser	Phe
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177 178 180 181 183 184 186 187 189	Met 1 Asp Gly Ala Pro 65	Ser Pro Asn Val 50 Arg	Asn Ser Pro 35 Glu Glu	Arg Val 20 Ala Lys Ile	Pro 5 Val Ser Ala Val	Glu Arg Arg Trp 70	Lys Ser Glu 55 Thr	Met His 40 Glu Ser	Ile 25 Arg Val Gly	10 Pro Phe Ala Ala	Trp Gly Lys Thr 75	Leu Trp Leu 60 Glu	Tyr Glu 45 Val Ser	Glu 30 Ala Asn	15 Ser Glu Ala	Phe Asp Asp Leu 80
177 178 180 181 183 184 186 187 189 190 192 193	Met 1 Asp Gly Ala Pro 65 Ala	Ser Pro Asn Val 50 Arg	Asn Ser Pro 35 Glu Glu Lys	Val 20 Ala Lys Ile Gly	Pro 5 Val Ser Ala Val Ala 85	Glu Arg Arg Trp 70 Ala	Lys Ser Glu 55 Thr	Met His 40 Glu Ser	Ile 25 Arg Val Gly	Phe Ala Ala Ala 90	Trp Gly Lys Thr 75 Glu	Leu Trp Leu 60 Glu Arg	Tyr Glu 45 Val Ser Gly	Glu 30 Ala Asn Asp Lys	15 Ser Glu Ala Asn His 95	Phe Asp Asp Leu 80 Ile
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177 178 180 181 183 184 186 187 190 192 193 195 196	Met 1 Asp Gly Ala Pro 65 Ala Ile	Ser Pro Asn Val 50 Arg Ile Thr	Asn Ser Pro 35 Glu Glu Lys Val	Val 20 Ala Lys Ile Gly Lys 100	Pro 5 Val Ser Ala Val Ala 85 Thr	Glu Arg Arg Trp 70 Ala Glu	Lys Ser Glu 55 Thr Asn	Met His 40 Glu Ser Phe Lys	Ile 25 Arg Val Gly Tyr Ala 105	10 Pro Phe Ala Ala Ala 90 Val	Trp Gly Lys Thr 75 Glu Leu	Leu Trp Leu 60 Glu Arg	Tyr Glu 45 Val Ser Gly Thr	Glu 30 Ala Asn Asp Lys Cys 110	15 Ser Glu Ala Asn His 95 Arg	Phe Asp Asp Leu 80 Ile Glu
177 178 180 181 183 184 186 187 199 190 192 193 195 196 198	Met 1 Asp Gly Ala Pro 65 Ala Ile	Ser Pro Asn Val 50 Arg Ile Thr	Asn Ser Pro 35 Glu Glu Lys Val Arg	Val 20 Ala Lys Ile Gly Lys 100	Pro 5 Val Ser Ala Val Ala 85 Thr	Glu Arg Arg Trp 70 Ala Glu	Lys Ser Glu 55 Thr Asn	Met His 40 Glu Ser Phe Lys Val	Ile 25 Arg Val Gly Tyr Ala 105	10 Pro Phe Ala Ala Ala 90 Val	Trp Gly Lys Thr 75 Glu Leu	Leu Trp Leu 60 Glu Arg	Tyr Glu 45 Val Ser Gly Thr	Glu 30 Ala Asn Asp Lys Cys 110	15 Ser Glu Ala Asn His 95	Phe Asp Asp Leu 80 Ile Glu
177 178 180 181 183 184 186 187 190 192 193 195 196 198 199	Met 1 Asp Gly Ala Pro 65 Ala Ile Leu	Ser Pro Asn Val 50 Arg Ile Thr Glu	Asn Ser Pro 35 Glu Glu Lys Val Arg 115	Val 20 Ala Lys Ile Gly Lys 100 Gln	Pro 5 Val Ser Ala Val Ala 85 Thr	Glu Arg Arg Trp 70 Ala Glu Phe	Lys Ser Glu 55 Thr Asn His	Met His 40 Glu Ser Phe Lys Val 120	Ile 25 Arg Val Gly Tyr Ala 105 Thr	10 Pro Phe Ala Ala 90 Val	Trp Gly Lys Thr 75 Glu Leu Leu	Leu Trp Leu 60 Glu Arg Asp	Tyr Glu 45 Val Ser Gly Thr Val 125	Glu 30 Ala Asn Asp Lys Cys 110 Gln	15 Ser Glu Ala Asn His 95 Arg	Phe Asp Asp Leu 80 Ile Glu Asp
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177 178 180 181 183 184 186 187 189 190 192 193 195 196 198 201 202 204 205 207	Met 1 Asp Gly Ala Pro 65 Ala Ile Leu Gly Ile 145	Pro Asn Val 50 Arg Ile Thr Glu Leu 130 Leu	Asn Ser Pro 35 Glu Glu Lys Val Arg 115 Leu Val	Val 20 Ala Lys Ile Gly Lys 100 Gln Ser	Pro 5 Val Ser Ala Val Ala 85 Thr Gly Leu Val Leu	Glu Arg Arg Trp 70 Ala Glu Phe Asp Met 150	Lys Ser Glu 55 Thr Asn His Glu Ala 135 Met	Met His 40 Glu Ser Phe Lys Val 120 Phe Val	Ile 25 Arg Val Gly Tyr Ala 105 Thr Lys Asn	10 Pro Phe Ala Ala 90 Val Tyr Ala Asn	Trp Gly Lys Thr 75 Glu Leu Leu Ala Glu 155	Leu Trp Leu 60 Glu Arg Asp Asp Leu 140 Ile	Tyr Glu 45 Val Ser Gly Thr Val 125 Arg	Glu 30 Ala Asn Asp Lys Cys 110 Gln Pro Val	15 ser Glu Ala Asn His 95 Arg Asp Ile	Phe Asp Asp Leu 80 Ile Glu Asp Thr Gln 160
177 178 180 181 183 184 186 187 189 190 192 193 195 196 201 202 204 205 207 208	Met 1 Asp Gly Ala Pro 65 Ala Ile Leu Gly Ile 145 Asp	Ser Pro Asn Val 50 Arg Ile Thr Glu Leu 130 Leu Ile	Asn Ser Pro 35 Glu Glu Lys Val Arg 115 Leu Val Ala	Val 20 Ala Lys Ile Gly Lys 100 Gln Ser Ser	Pro 5 Val Ser Ala Val Ala 85 Thr Gly Leu Val Leu 165	Glu Arg Trp 70 Ala Glu Phe Asp Met 150 Gly	Lys Ser Glu 55 Thr Asn His Glu Ala 135 Met Glu	Met His 40 Glu Ser Phe Lys Val 120 Phe Val Ile	Ile 25 Arg Val Gly Tyr Ala 105 Thr Lys Asn Cys	10 Pro Phe Ala Ala 90 Val Tyr Ala Asn Arg 170	Trp Gly Lys Thr 75 Glu Leu Leu Ala Glu 155 Glu	Leu Trp Leu 60 Glu Arg Asp Leu 140 Ile Lys	Tyr Glu 45 Val Ser Gly Thr Val 125 Arg Gly Gly	Glu 30 Ala Asn Asp Lys Cys 110 Gln Pro Val Ile	15 Ser Glu Ala Asn His 95 Arg Asp Ile Ile 175	Phe Asp Asp Leu 80 Ile Glu Asp Thr Gln 160 Phe
177 178 180 181 183 184 186 187 189 190 192 193 195 196 201 202 204 205 207 208	Met 1 Asp Gly Ala Pro 65 Ala Ile Leu Gly Ile 145 Asp	Ser Pro Asn Val 50 Arg Ile Thr Glu Leu 130 Leu Ile	Asn Ser Pro 35 Glu Glu Lys Val Arg 115 Leu Val Ala	Val 20 Ala Lys Ile Gly Lys 100 Gln Ser Ser	Pro 5 Val Ser Ala Val Ala 85 Thr Gly Leu Val Leu 165	Glu Arg Trp 70 Ala Glu Phe Asp Met 150 Gly	Lys Ser Glu 55 Thr Asn His Glu Ala 135 Met Glu	Met His 40 Glu Ser Phe Lys Val 120 Phe Val Ile	Ile 25 Arg Val Gly Tyr Ala 105 Thr Lys Asn Cys	10 Pro Phe Ala Ala 90 Val Tyr Ala Asn Arg 170	Trp Gly Lys Thr 75 Glu Leu Leu Ala Glu 155 Glu	Leu Trp Leu 60 Glu Arg Asp Leu 140 Ile Lys	Tyr Glu 45 Val Ser Gly Thr Val 125 Arg Gly Gly	Glu 30 Ala Asn Asp Lys Cys 110 Gln Pro Val Ile	15 ser Glu Ala Asn His 95 Arg Asp Ile	Phe Asp Asp Leu 80 Ile Glu Asp Thr Gln 160 Phe

RAW SEQUENCE LISTING DATE: 05/09/2003
PATENT APPLICATION: US/09/825,769A TIME: 12:39:25

Input Set : A:\38777054.app

Output Set: N:\CRF4\05092003\1825769A.raw

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                            215
219 Ile Glu Ala Gln Met His Gly Gly Gly His Glu Arg Gly Phe Arg Ser
220 225
                        230
                                            235
222 Gly Thr Leu Ala Thr His Gln Ile Val Gly Met Gly Glu Ala Phe Arg
223
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225 Leu Ala Arg Glu Glu Met Gly Thr Glu Asn Glu Arg Val Arg Met Leu
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228 Arg Asp Arg Leu Leu Ala Gly Leu Thr Gln Ile Glu Glu Val Tyr Val
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231 Asn Gly Ser His Glu His Arq Val Pro His Asn Leu Asn Ile Ser Phe
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234 Asn Tyr Val Glu Gly Glu Ser Leu Ile Met Ala Ile Lys Glu Leu Ala
235 305
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237 Val Ser Ser Gly Ser Ala Cys Thr Ser Ala Ser Leu Glu Pro Ser Tyr
238
                    325
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240 Val Leu Arg Ala Leu Gly Arg Asn Asp Glu Leu Ala His Ser Ser Ile
                340
                                    345
243 Arg Phe Thr Leu Gly Arg Phe Thr Thr Glu Glu Ile Asp Phe Thr
244
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246 Ile Glu Leu Ile Lys Ser Arg Val Gly Lys Leu Arg Asp Met Ser Pro
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274 gaaatgggca ccgagaacga gcgcgtgcgc atgctgcgcg accgcctgct ggccggcctg 840
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W--> 328 ggcgcaagcc gcgcgtgngn atcgaggcgc agatgcacgg cggcggccac gaacggggct 60 334 tgcgcgcgct gggccgcaac gacgagctgg cgcacagctc catccgcttt accctgggcc 420 335 getteacqae eqaacaqqaa ategaettea eqateqaact gateaaqaqt eqtqteqqea 480 336 agctgcgcga tatgtcgccg ttgtgggaaa tggcccagga aggcattgat ctgaattccg 540

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/09/825,769A DATE: 05/09/2003 TIME: 12:39:26

Input Set : A:\38777054.app

Output Set: N:\CRF4\05092003\I825769A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:10; N Pos. 18,20,75 Seq#:12; N Pos. 247

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/825,769A TIME: 12:39:26

DATE: 05/09/2003

Input Set : A:\38777054.app

Output Set: N:\CRF4\05092003\1825769A.raw

 $L:328\ M:341\ W:$ (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0

M:341 Repeated in SeqNo=10

L:371 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:240